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ABSTRACT

A study was conducted at Evergreen Valley College (EVC) and San Jose City College (SJCC) to determine persistence rates over 4 academic years for students with no previous college experience who entered arithmetic (Math 310), beginning algebra (Math 12), and intermediate algebra (Math 13) courses in fall 1988. The study sought to determine persistence through transfer level Math by the end of spring 1992. Study results included the following: (1) at EVC, 7% of the Math 310, 10% of the Math 12, and 25% of the Math 13 students achieved transfer level math competence; (2) at SJCC, 3% of the Math 310, 11% of the Math 12, and 35% of the Math 13 students achieved transfer level competence; (3) at EVC, 7% of both males and females in Math 310 achieved transfer level, compared to 11% of males and 10% of females in Math 12 and 29% of males and 18% of females in Math 13; (4) at SJCC, 4% of males and 2% of females in Math 310 achieved transfer level, compared to 15% of males and 8% of females in Math 12 and 34% of males and 35% of females in Math 13; (5) for students in all three courses at EVC, persistence rates by ethnicity were 17% for Asians, 11% for Hispanics, 5% for Blacks, and 4% for Whites; and (6) for students in all three courses at SJCC, persistence rates by ethnicity were 18% for Asians, 10% for Hispanics, 9% for Blacks, and 7% for Whites. (KP)

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San Jose City College and Evergreen Valley College

PERSISTENCE OF FALL 1988 MATH 310, MATH 12 & MATH 13 STUDENTS THROUGH TRANSFER LEVEL MATH OVER FOUR ACADEMIC YEARS (FALL 1988 - SPRING 1992)

by
Jon Kangas and Tony Ma

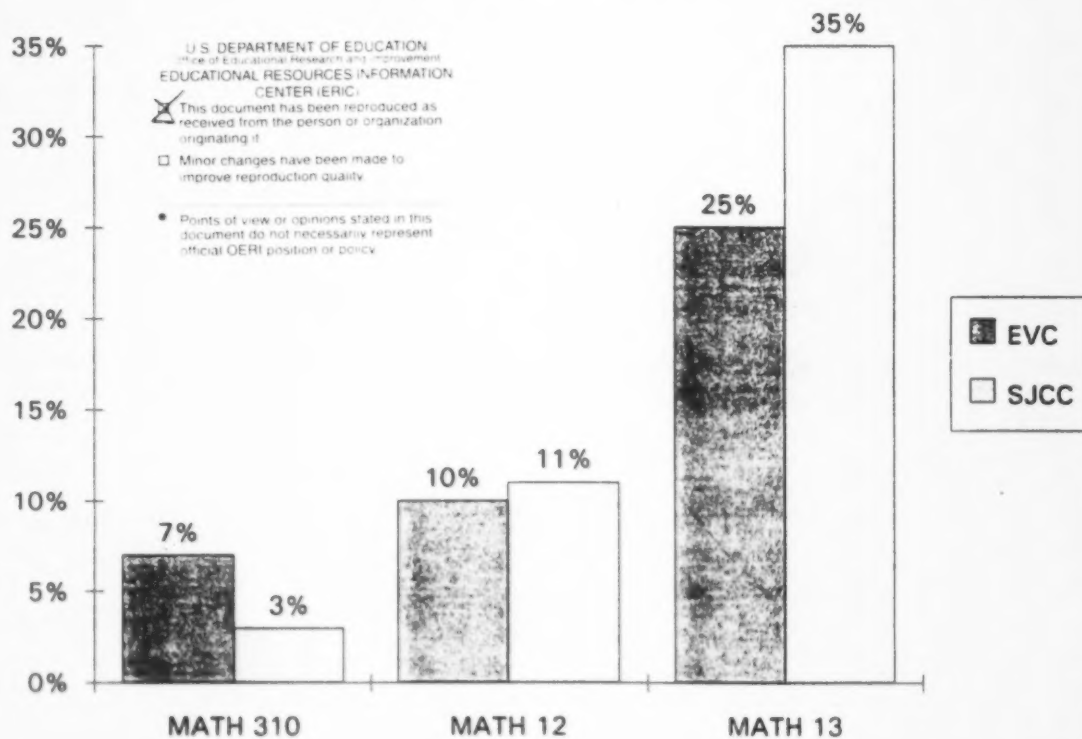
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Persistence to Transfer Level Math (EVC & SJCC) F88 - S92

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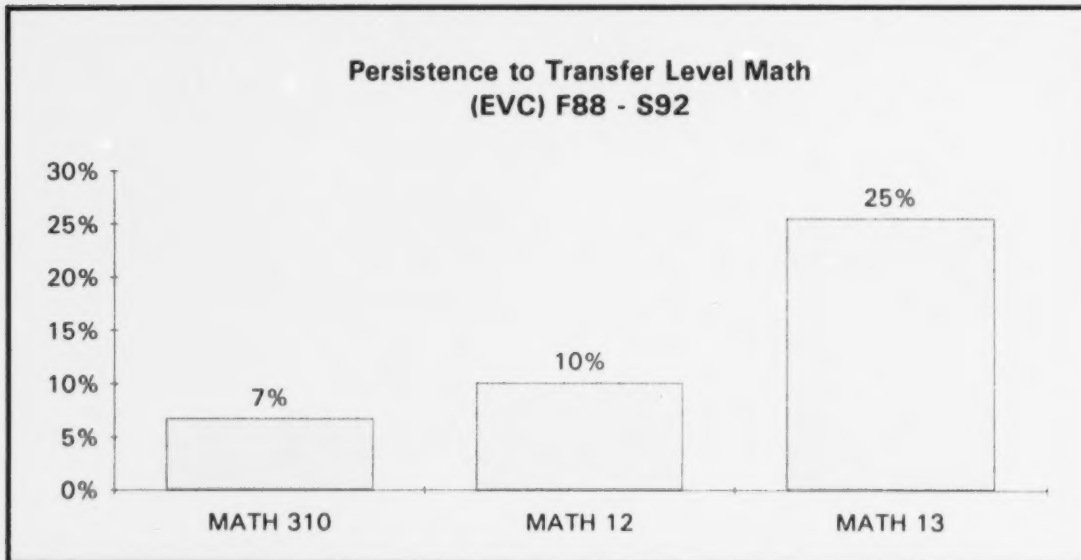


Evergreen Valley College

Question:

What are the differences in persistence to Transfer Level Math over four academic years for students with no previous college experience who started in MATH 310, MATH 12 or MATH 13 at EVC in Fall 1988?

	Original #	# Pers	% Pers
MATH 310	193	13	7%
MATH 12	158	16	10%
MATH 13	51	13	25%
Total	402	42	10%

**Answer:**

Only 7% of the new students starting in MATH 310 and 10% of the new students starting in MATH 12 achieved Transfer Level MATH competence within four academic years. 25% of those students started out in MATH 13 at the same time achieved Transfer Level Math by the end of Spring 1992.

Comments:

Only 7% of EVC MATH 310 (Arithmetic) students persisted to Transfer Level Math, a finding identical to the 7% for English 321 students.

Algebra 1 students persisted to Transfer Level Math at a rate of 10% compared to 23% for English 322 students.

Recommendations:

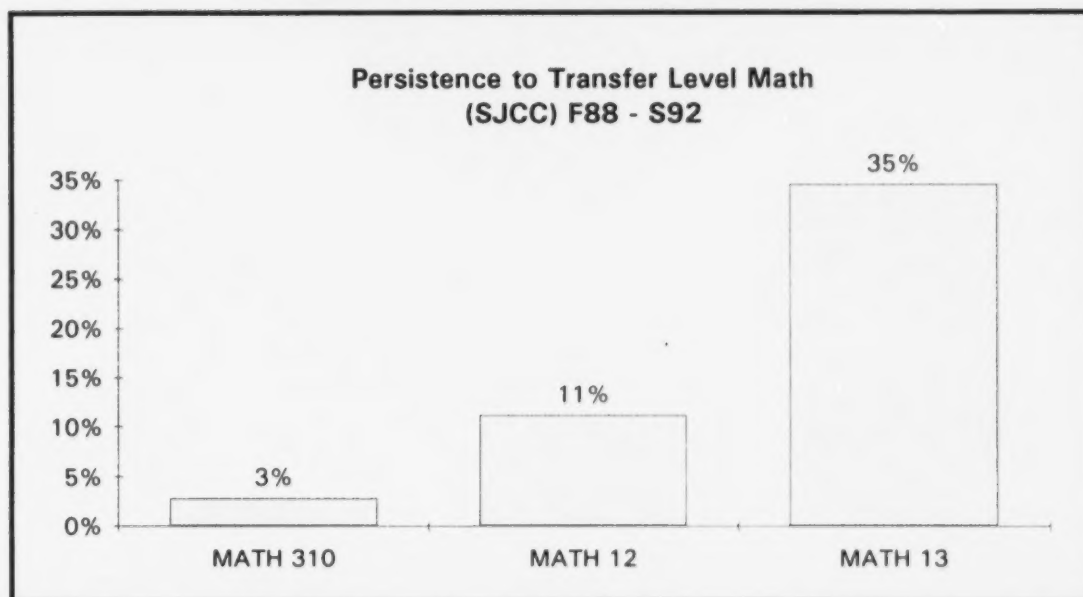
1. Consider a Guidance Class or program aimed directly at Math 310 and English 321 students with an extremely high emphasis on Learning Disability, testing, job placement planning, career planning, social work, and educational planning. The goal will be the development of an individual job, career, and educational plan for each student in these classes.
2. Consider a similar class or program aimed at Algebra I, English 322 and English 330 students with a much higher emphasis on persistence to transfer Math and English and eventual graduation and transfer.
3. Consider direct recruiting of disadvantaged students in higher level high school English and Math classes.
4. Consider working with high schools to emphasize early on the importance for their students to take higher level Math and English.
5. Consider a greater emphasis on the part of both counselors and Math faculty to have students complete their work sequence, not just the reading and writing segments.

San Jose City College

Question:

What are the differences in persistence to Transfer Level Math over four academic years for students with no previous college experience who started in MATH 310, MATH 12 or MATH 13 at SJCC in Fall 1988?

	Original #	# Pers	% Pers
MATH 310	250	7	3%
MATH 12	135	15	11%
MATH 13	55	19	35%
Total	440	41	9%

**Answer:**

Only 3% of the new students starting in MATH 310 and 11% of the new students starting in MATH 13 achieved Transfer Level MATH competence within four academic years. 35% of those students started out in MATH 13 at the same time achieved Transfer Level Math by the end of Spring 1992.

Comments:

Only 3% of SJCC MATH 310 (Arithmetic) students persisted to Transfer Level Math, a finding identical to the 3% for English 321 students. Algebra 1 students persisted to Transfer Level Math at a rate of 11% compared to 20% for English 322 students.

Recommendations:

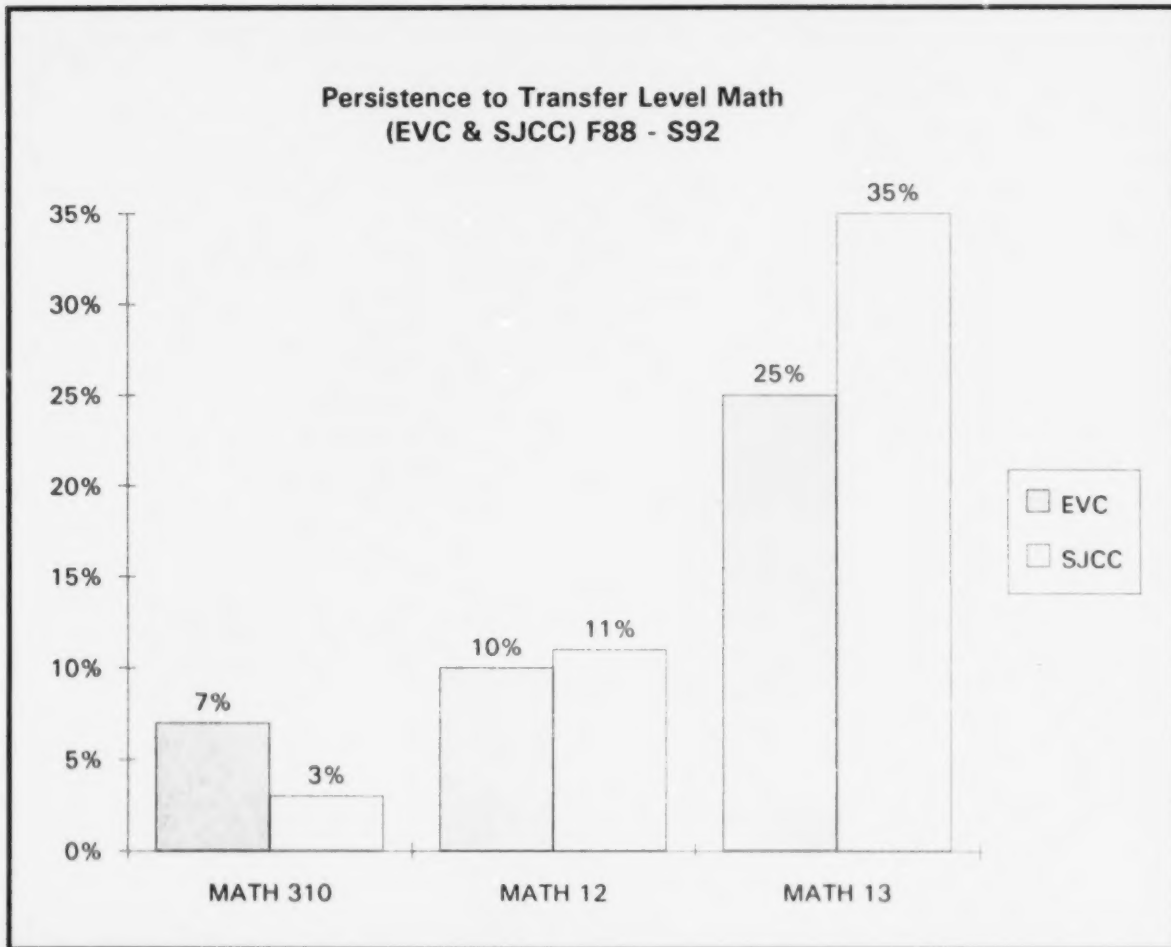
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2. Consider a similar class or program aimed at Algebra I, English 322 and English 335 students with a much higher emphasis on persistence to transfer Math and English and eventual graduation and transfer.
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Evergreen Valley College and San Jose City College

Question:

What are the differences in persistence to Transfer Level Math over four academic years for students with no previous college experience who started in MATH 310, MATH 12 or MATH 13 at EVC and SJCC in Fall 1988?

	MATH 310	MATH 12	MATH 13
EVC	7%	10%	25%
SJCC	3%	11%	35%

**Answer:**

35% of students starting in MATH 13 at SJCC completed Transfer Level Math within four academic years compared to 25% at EVC. Conversely, the persistence rate from MATH 310 to Transfer Level Math was higher at EVC (7%) than at SJCC (3%). A conversation between the Math faculty from the two colleges could provide some clues related to the greater SJCC persistence rate from MATH 13 and greater EVC persistence from MATH 310.

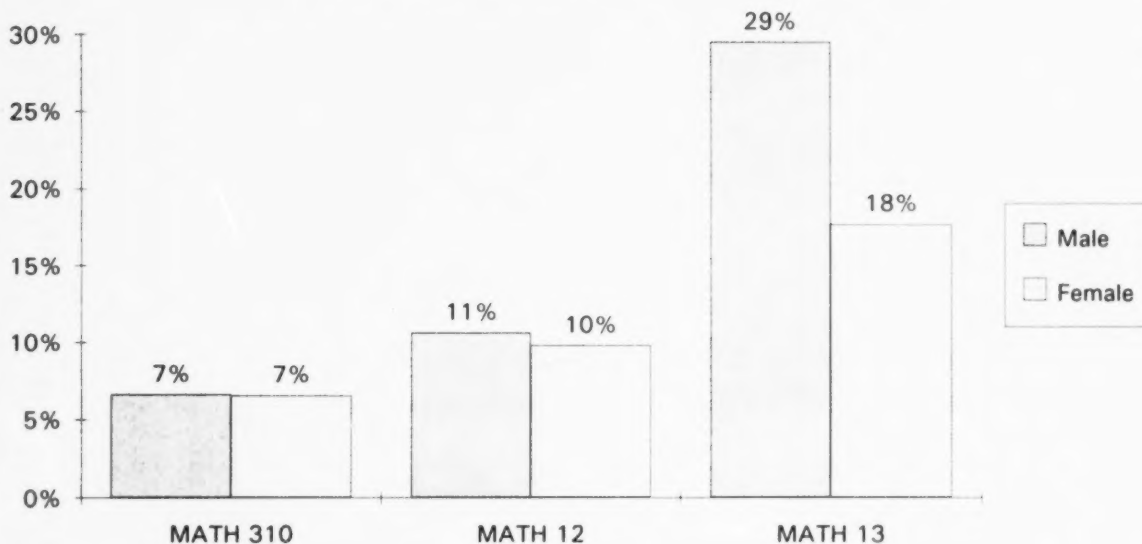
Evergreen Valley College

Question:

What are the differences by Gender in persistence to Transfer Level Math over four academic years for students with no previous college experience who started in MATH 310, MATH 12 or MATH 13 at EVC in Fall 1988?

	Original #		# Pers		% Pers	
	Male	Female	Male	Female	Male	Female
MATH 310	71	122	5	8	7%	7%
MATH 12	66	92	7	9	11%	10%
MATH 13	34	17	10	3	29%	18%
Total	171	231	22	20	13%	9%

**Persistence to Transfer Level Math by Gender
(EVC) F88 - S92**



Answer:

7% of the new male students and 7% of the new female students starting in MATH 310 at EVC in Fall 1988 achieved Transfer Level Math competence within four academic years. 11% of the new male students and 10% of the new female students starting out in MATH 12 at the same time completed Transfer Level Math by the end of Spring 1992. 29% of the new male students and 18% of new female students starting out in MATH 13 at the same time completed Transfer Level Math by the end of Spring 1992.

It is worth noting that far more females than males started in MATH 310 and MATH 12 while the reverse was true in MATH 13. Special attention might be devoted at the female who started in MATH 13 but only had an 18% persistence rate to Transfer Level Math.

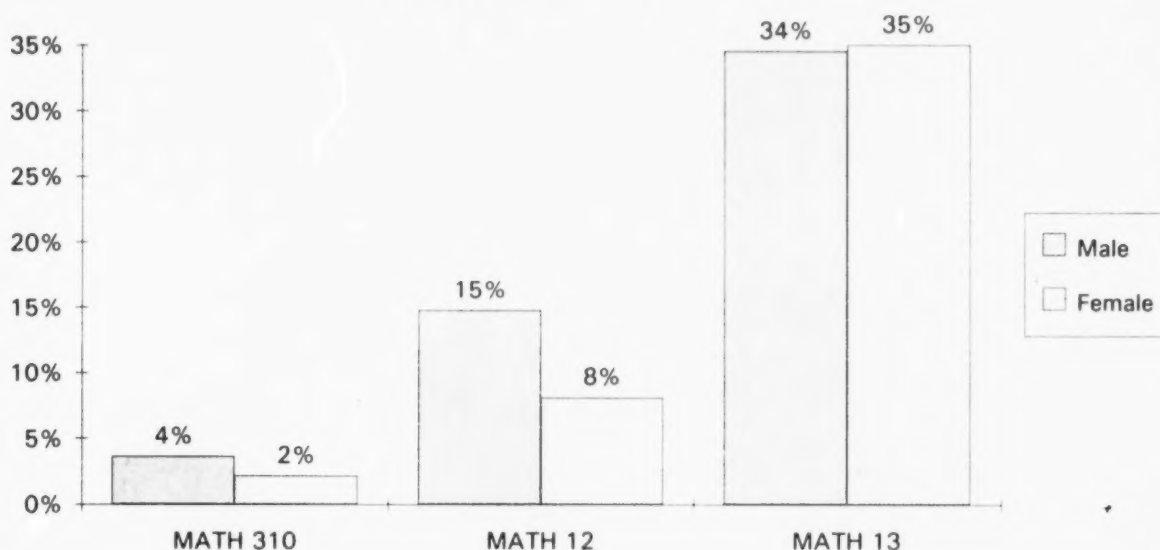
San Jose City College

Question:

What are the differences by Gender in persistence to Transfer Level Math over four academic years for students with no previous college experience who started in MATH 310, MATH 12 or MATH 13 at SJCC in Fall 1988?

	Original #		# Pers		% Pers	
	Male	Female	Male	Female	Male	Female
MATH 310	111	139	4	3	4%	2%
MATH 12	61	74	9	6	15%	8%
MATH 13	29	26	10	9	34%	35%
Total	201	239	23	18	11%	8%

**Persistence to Transfer Math by Gender
(SJCC) F88 - S92**



Answer:

4% of the new male students and 2% of the new female students starting in MATH 310 at SJCC in Fall 1988 achieved Transfer Level Math competence within four academic years. 15% of the new male students and 8% of the new female students starting out in MATH 12 at the same time completed Transfer Level Math by the end of Spring 1992. 34% of the new male students and 35% of new female students starting out in MATH 13 at the same time completed Transfer Level Math by the end of Spring 1992.

It is worth noting that slightly more females than males started in MATH 310 and MATH 12 while the reverse was true in MATH 13. Special attention might be devoted at the female who started in MATH 12 but only had an 8% persistence rate to Transfer Level Math.

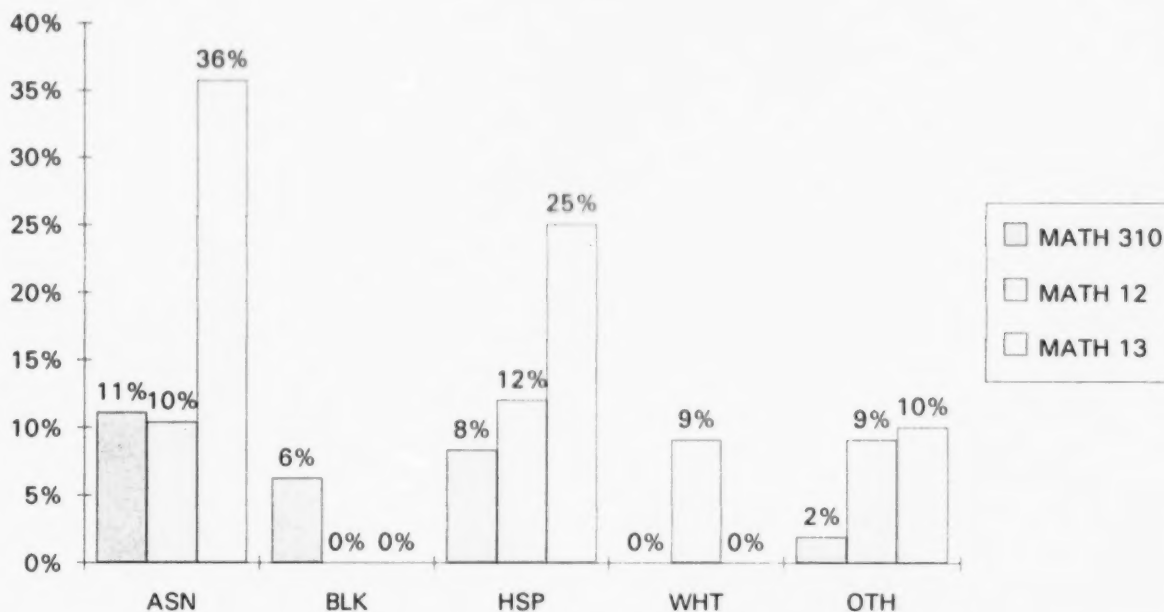
Evergreen Valley College

Question:

What are the differences by Ethnicity in persistence to Transfer Level Math over four academic years for students with no previous college experience who started in MATH 310, MATH 12 or MATH 13 at EVC in Fall 1988?

	Original #					# Pers					% Pers				
	ASN	BLK	HSP	WHT	OTH	ASN	BLK	HSP	WHT	OTH	ASN	BLK	HSP	WHT	OTH
MATH 310	45	16	72	8	52	5	1	6	0	1	11%	6%	8%	0%	2%
MATH 12	48	5	50	11	44	5	0	6	1	4	10%	0%	12%	9%	9%
MATH 13	28	1	8	4	10	10	0	2	0	1	36%	0%	25%	0%	10%
Total	121	22	130	23	106	20	1	14	1	6	17%	5%	11%	4%	6%

**Persistence to Transfer Level Math by Ethnicity
(EVC) F88 - S92**



Answers:

MATH 310
MATH 12
MATH 13

Group(s) with HIGHEST
Persistence Rate:
Asian at 11%
Hispanic at 12%
Asian at 36%

Group(s) with LOWEST
Persistence Rate:
White at 0%
Black at 0%
Black & White at 0%

Comments:

A total of 22 Blacks and 23 Whites began Math at MATH 310, 12, or 13. Only one Black and one White persisted to Transfer Level Math. Special focus might be directed to these groups. Attention at every level of Math needs to be given to helping students persist to the next level of Math.

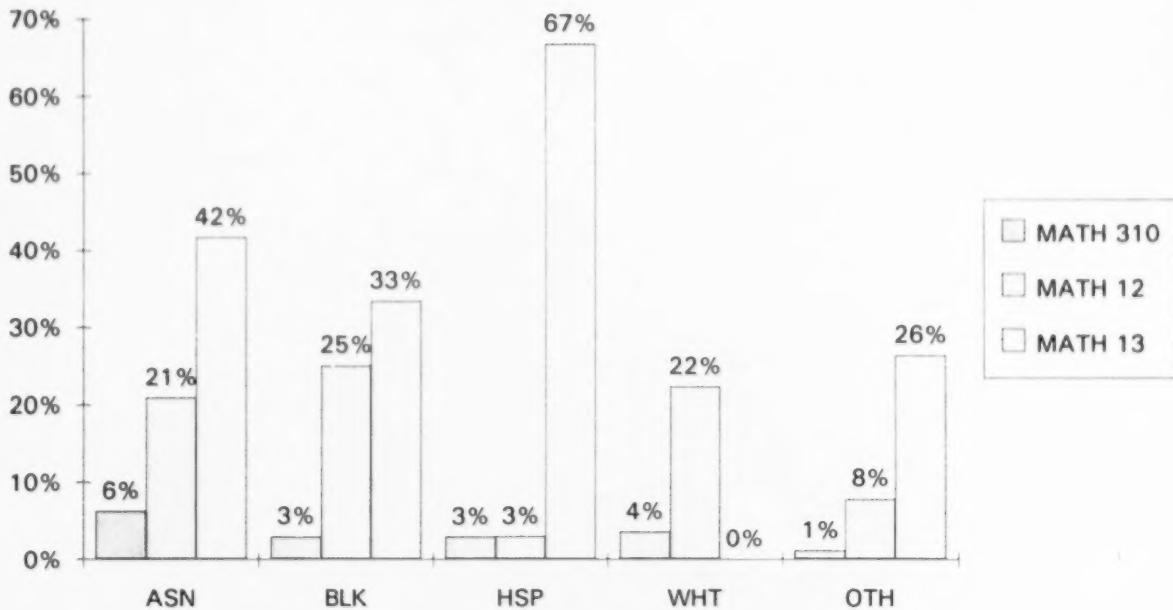
San Jose City College

Question:

What are the differences by Ethnicity in persistence to Transfer Level Math over four academic years for students with no previous college experience who started in MATH 310, MATH 12 or MATH 13 at SJCC in Fall 1988?

	Original #					# Pers					% Pers				
	ASN	BLK	HSP	WHT	OTH	ASN	BLK	HSP	WHT	OTH	ASN	BLK	HSP	WHT	OTH
MATH 310	32	34	68	28	88	2	1	2	1	1	6%	3%	3%	4%	1%
MATH 12	24	8	30	9	64	5	2	1	2	5	21%	25%	3%	22%	8%
MATH 13	12	3	12	9	19	5	1	8	0	5	42%	33%	67%	0%	26%
Total	68	45	110	46	171	12	4	11	3	11	18%	9%	10%	7%	6%

**Persistence to Transfer Level Math by Ethnicity
(SJCC) F88 - S92**



Answers:

Group(s) with HIGHEST
Persistence Rate:

MATH 310
MATH 12
MATH 13

Asian at 6%
Black at 25%
Hispanic at 67%

Group(s) with LOWEST
Persistence Rate:

Other at 1%
Hispanic at 3%
White at 0%

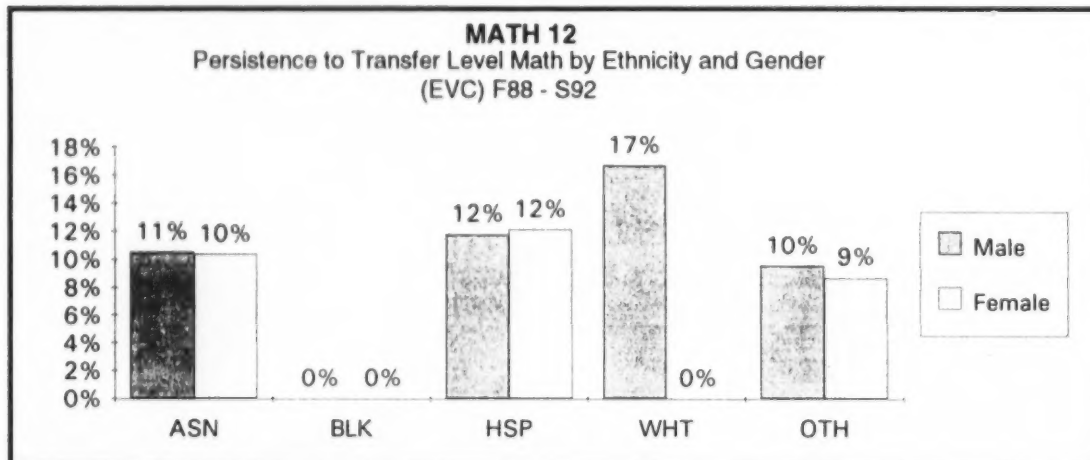
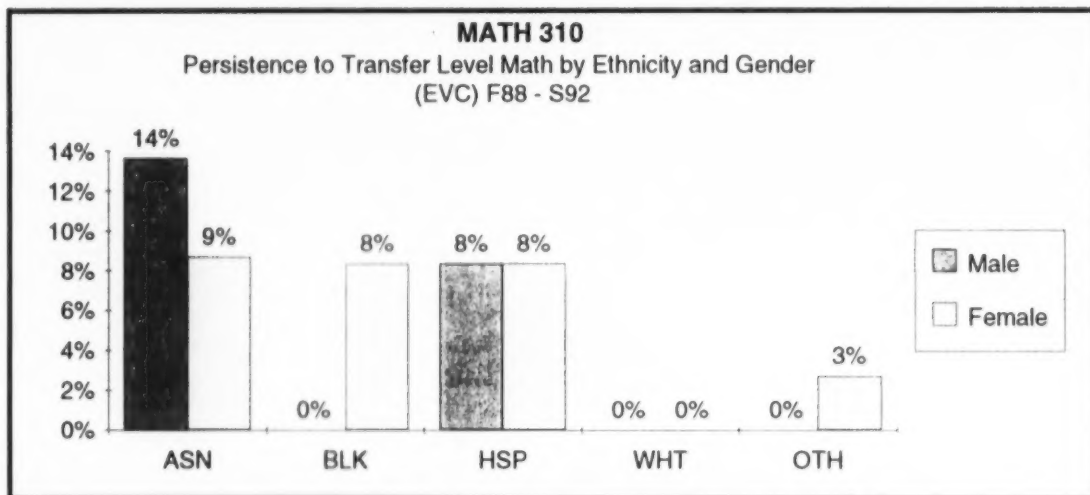
Comments:

A total of 45 Blacks and 46 Whites began Math at MATH 310, 12, or 13. Only four Blacks and three Whites persisted to Transfer Level Math. Special focus might be directed to these groups. Attention at every level of Math needs to be given to helping students persist to the next level of Math.

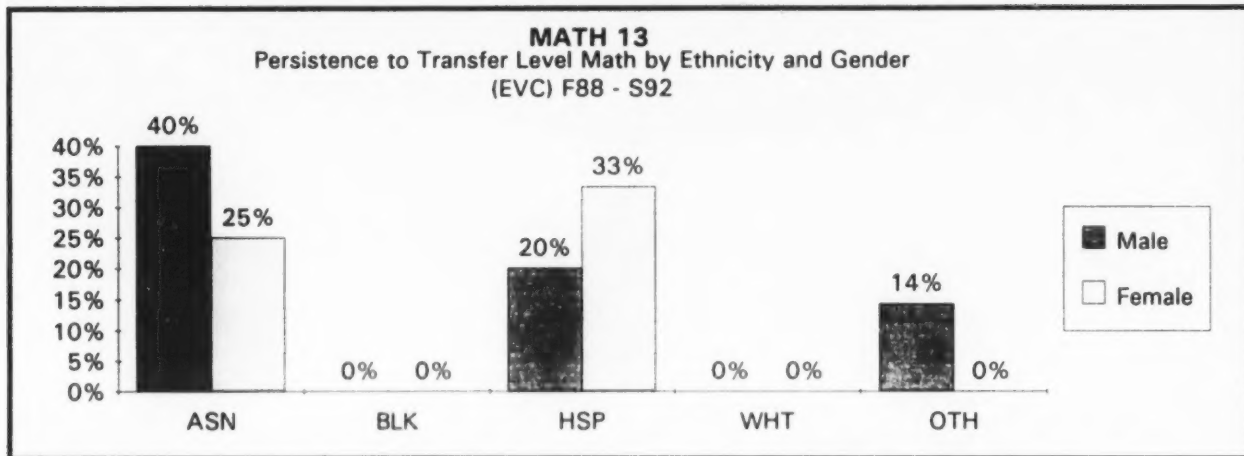
Evergreen Valley College

Question: What are the differences by Ethnicity and Gender in persistence to Transfer Level Math over four academic years for students with no previous college experience who started in MATH 310, MATH 12 or MATH 13 at EVC in Fall 1988?

		Original #					# Pers					% Pers				
		ASN	BLK	HSP	WHT	OTH	ASN	BLK	HSP	WHT	OTH	ASN	BLK	HSP	WHT	OTH
MATH 310	Male	22	4	24	6	15	3	0	2	0	0	14%	0%	8%	0%	0%
	Female	23	12	48	2	37	2	1	4	0	1	9%	8%	8%	0%	3%
MATH 12	Male	19	3	17	6	21	2	0	2	1	2	11%	0%	12%	17%	10%
	Female	29	2	33	5	23	3	0	4	0	2	10%	0%	12%	0%	9%
MATH 13	Male	20	1	5	1	7	8	0	1	0	1	40%	0%	20%	0%	14%
	Female	8	0	3	3	3	2	0	1	0	0	25%	0%	33%	0%	0%
Total	Male	61	8	46	13	43	13	0	5	1	3	21%	0%	11%	8%	7%
	Female	60	14	84	10	63	7	1	9	0	3	12%	7%	11%	0%	5%



Evergreen Valley College



Answer:

Group(s) with HIGHEST Persistence Rates:

Group(s) with LOWEST Persistence Rates:

MATH 310 Asian Male at 14%

Black Male, White Male and Female, and Other Male at 0%

MATH 12 White Male at 17%

Black Male and Female, and White Male at 0%

MATH 13 Asian Male at 40%

Black Male and Female, White Male and Female, and Other Female at 0%

Comments:

Of all new MATH 310, MATH 12, and MATH 13 students at EVC :

- no Black Males persisted
- no White Females persisted
- only one Black Female persisted
- only one White Male persisted

Data should be interpreted with caution due to small numbers.

San Jose City College

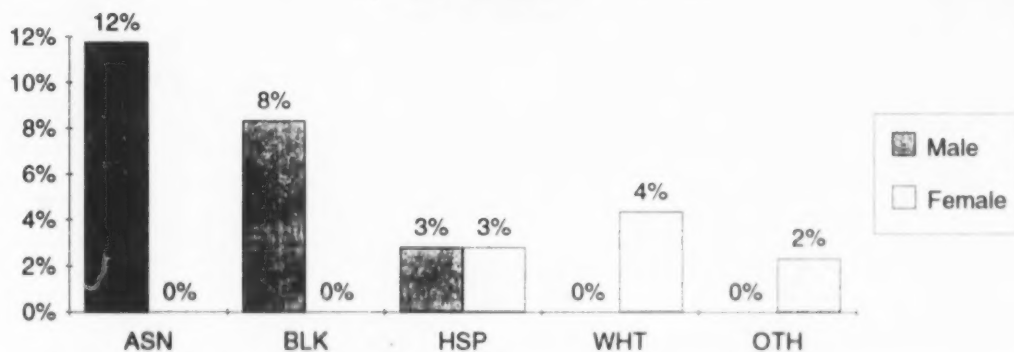
Question:

What are the differences by Ethnicity and Gender in persistence to Transfer Level Math over four academic years for students with no previous college experience who started in MATH 310, MATH 12 or MATH 13 at SJCC in Fall 1988?

		Original #					# Pers					% Pers				
		ASN	BLK	HSP	WHT	OTH	ASN	BLK	HSP	WHT	OTH	ASN	BLK	HSP	WHT	OTH
MATH 310	Male	17	12	32	5	45	2	1	1	0	0	12%	8%	3%	0%	0%
	Female	15	22	36	23	43	0	0	1	1	1	0%	0%	3%	4%	2%
MATH 12	Male	10	4	14	4	29	1	2	1	1	4	10%	50%	7%	25%	14%
	Female	14	4	16	5	35	4	0	0	1	1	29%	0%	0%	20%	3%
MATH 13	Male	7	1	6	4	11	3	0	4	0	3	43%	0%	67%	0%	27%
	Female	5	2	6	5	8	2	1	4	0	2	40%	50%	67%	0%	25%
Total	Male	34	17	52	13	85	6	3	6	1	7	18%	18%	11%	8%	8%
	Female	34	28	58	33	86	6	1	5	2	4	18%	4%	9%	6%	5%

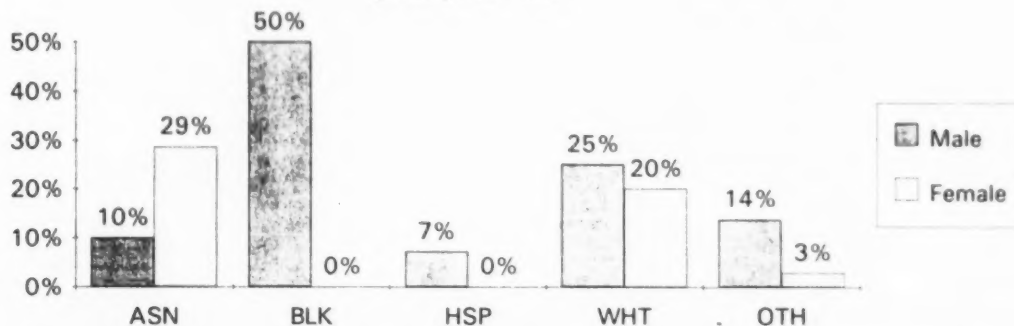
MATH 310

Persistence to Transfer Level Math by Ethnicity and Gender
(SJCC) F88 - S92

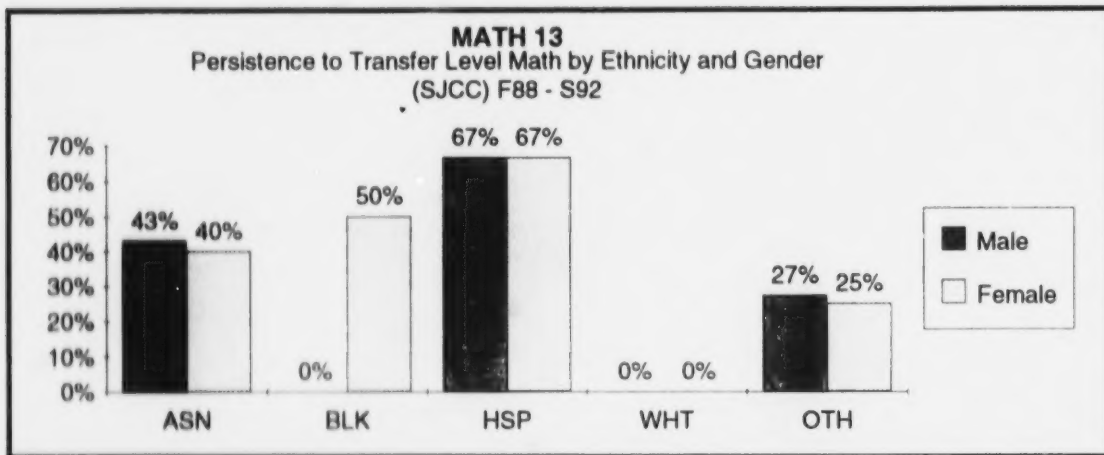


MATH 12

Persistence to Transfer Level Math by Ethnicity and Gender
(SJCC) F88 - S92



San Jose City College



Answer:

Group(s) with HIGHEST Persistence Rates:

Group(s) with LOWEST Persistence Rates:

MATH 310 Asian Male at 12%

Asian Female, Black Female, White Male, and Other Male at 0%

MATH 12 Black Male at 50%

Black Female and Hispanic Female at 0%

MATH 13 Hispanic Male and Female at 67%

Black Male, White Male and Female at 0%

Comments:

Of all new MATH 310, MATH 12, and MATH 13 students at SJCC :

-only one Black Female persisted

-only one White Male persisted

Data should be interpreted with caution due to small numbers.